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# Mikrokapseldispersion

**Patent number:** DE4407813

**Publication date:** 1995-10-26

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**Applicant:** FELDMUEHLE AG STORA (DE)

**Classification:**

- **International:** B41M5/165; C09B67/08; C09B19/00

- **European:** B41M5/165S

**Application number:** DE19944407813 19940309

**Priority number(s):** DE19944407813 19940309

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 WO9524318 (A1)

 EP0749371 (A1)

 EP0749371 (B1)

## Abstract of DE4407813

The microcapsules of a dispersion for producing pressure-sensitive printing papers contain as solvent 10 to 30 % by weight of a liquid paraffin oil at room temperature, 25 to 60 % by weight of a liquid vegetable oil at room temperature or 15 to 60 % by weight of a mixture of 5 to 30 % by weight of a liquid paraffin oil at room temperature and 10 to 55 % by weight of a liquid vegetable oil at room temperature, the balance consisting of a solid or semi-solid vegetable oil at room temperature. The solvent contained in the core of the capsules is liquid at room temperature and the capsule wall is made of polycarbamide.

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WPI Acc No: 1995-328176/199542

XRAM Acc No: C95-145582

XRXPX Acc No: N95-247006

Microcapsule dispersion for prodn. of pressure sensitive recording papers  
- has capsules with polyurea walls and contain dye precursor and  
vegetable oil that is solid or semi-solid at room temp.

Patent Assignee: STORA CARBONLESS PAPER GMBH (STOR-N); STORA FELDMUEHLE AG  
(FELU ); STORA PUBLICATION PAPER AG (STOR-N); STORA PUBLICATION PAPER AG  
(FELU )

Inventor: GABEL G; HILTERHAUS B

Number of Countries: 018 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9524318	A1	19950914	WO 95EP613	A	19950221	199542 B
DE 4407813	C1	19951026	DE 4407813	A	19940309	199547
EP 749371	A1	19961227	EP 95909752	A	19950221	199705
			WO 95EP613	A	19950221	
CZ 9602582	A3	19970312	WO 95EP613	A	19950221	199717
			CZ 962582	A	19950221	
EP 749371	B1	19981202	EP 95909752	A	19950221	199901
			WO 95EP613	A	19950221	
DE 59504421	G	19990114	DE 504421	A	19950221	199908
			EP 95909752	A	19950221	
			WO 95EP613	A	19950221	
ES 2127512	T3	19990416	EP 95909752	A	19950221	199922
CZ 285796	B6	19991117	WO 95EP613	A	19950221	200002
			CZ 962582	A	19950221	

Priority Applications (No Type Date): DE 4407813 A 19940309

Cited Patents: 02 25135000; 00 57321000; 02 15758700; 03 96850100; 428983

Patent Details:

Patent No	Kind	Land Pg	Main IPC	Filing Notes
WO 9524318	A1	G	25 B41M-005/165	
			Designated States (National): CZ SI	
			Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE	
CZ 285796	B6		B41M-005/165	Previous Publ. patent CZ 9602582 Based on patent WO 9524318
DE 4407813	C1	4	B41M-005/165	
EP 749371	A1	G	B41M-005/165	Based on patent WO 9524318
			Designated States (Regional): BE DE ES FR GB IT PT	
CZ 9602582	A3		B41M-005/165	Based on patent WO 9524318
EP 749371	B1	G	B41M-005/165	Based on patent WO 9524318
			Designated States (Regional): BE DE ES FR GB IT PT SI	
DE 59504421	G		B41M-005/165	Based on patent EP 749371 Based on patent WO 9524318
ES 2127512	T3		B41M-005/165	Based on patent EP 749371

Abstract (Basic): WO 9524318 A

Microcapsule dispersion for prodn. of press.-sensitive recording  
papers in which the capsules have walls of polyurea and contain a soln.  
of a dye precursor (mixt.) in a solvent that is liq. at room temp.

comprising 10-30 wt.% of a paraffin oil that is liq. at room temp. or from greater than 25 to 60 wt.% of a vegetable oil that is liq. at room temp., or 15-60 wt.% of a mixt. of 5-30 wt.% of a paraffin oil that is liq. at room temp. and 10-55 wt.% of a vegetable oil that is liq. at room temp., and a remainder of a vegetable oil that is solid or semi-solid at room temp.

ADVANTAGE - The solvent mixt. used allows problem-free prodn. of microcapsules with polyurea walls using polyisocyanate reactants and oils predominantly or wholly of vegetable origin, without using organic solvents such as isopropylnaphthalene as used in previous processes.

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Abstract (Equivalent): DE 4407813 C

Microcapsule dispersion for prep carbonless paper contains dye precursor(s) and a vegetable oil, which is (semi)solid at room temp in the core solvent in the microcapsules. The novel features are that (a) the core solvent (I) comprises (a-1) 10-30 wt% paraffin oil (IA), which is liquid at room temp over 25 to 60 wt% vegetable oil (IB), also liquid at room temp or 15-60 wt% mixt of 5-30 wt% (IA) and 10-55 wt% (IB) and (a-2) the rest a vegetable oil (IC), which is (semi)solid at room temp; (b) (I) is liquid at room temp; and (C) the capsule wall material consists of polyurea.

(I) contains 80-90 wt% (IC), rest (IA); or 60-70 wt% (IC), rest (IB). (I) does not start to solidify at temp of over 18 deg C. (IB) is rapeseed, sunflower, cottonseed, olive, corn and/or thistle oil; and (IC) is coconut, palm and/or palm-kernel oil. The dye precursor mixt contains 2-phenyl-4-(4-diethylaminophenyl)-4-(4-methoxyphenyl)-6-methyl-7-dimethylamino-4H-benz-3,1-oxazine (II).

ADVANTAGE - Only or mainly vegetable oils are used and the microcapsule walls have good impermeability.

Dwg.0/0

Title Terms: MICROCAPSULE; DISPERSE; PRODUCE; PRESSURE; SENSITIVE; RECORD; PAPER; CAPSULE; POLYUREA; WALL; CONTAIN; DYE; PRECURSOR; VEGETABLE; OIL; SOLID; SEMI; SOLID; ROOM; TEMPERATURE

Derwent Class: A26; A84; E24; G05; P75

International Patent Class (Main): B41M-005/165

International Patent Class (Additional): C09B-019/00; C09B-067/08

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): A05-J04; A12-D05A; A12-W05; E06-E02; E26-C; G05-D

Chemical Fragment Codes (M3):

\*01\* D013 D016 D023 E430 G010 G013 G019 G100 H1 H103 H142 H5 H541 H8 M1  
M113 M119 M150 M210 M211 M212 M240 M272 M273 M281 M283 M320 M412  
M511 M520 M533 M540 M781 M782 M903 M904 Q318 Q338 R033 9542-D7501-M  
9542-D7501-U  
\*02\* D013 D016 D022 D111 G013 G019 G100 H1 H103 H143 J5 J521 L9 L942 M1  
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\*05\* D011 D013 D022 D023 D024 D029 D041 D111 D210 H103 H141 H142 H401  
H402 H441 H442 J5 J521 L9 L942 M210 M211 M212 M213 M214 M215 M216  
M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M273 M280 M282  
M283 M320 M412 M417 M512 M520 M530 M540 M781 M782 M903 M904 Q318  
Q338 R033 9542-D7502-M 9542-D7502-U 05935

Chemical Fragment Codes (M4):

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M511 M520 M533 M540 M781 M782 M903 M904 Q318 Q338 R033 W003 W030  
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M283 M320 M412 M417 M512 M520 M530 M540 M781 M782 M903 M904 Q318  
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Polymer Indexing (PS) :

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\*002\* 017; ND01; K9563 K9483; K9676-R; N9999 N7147 N7034 N7023; N9999  
N6780-R N6655; Q9999 Q7523; N9999 N7170 N7023; Q9999 Q7114-R; Q9999  
Q8195-R Q8173  
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B4740; B9999 B5209 B5185 B4740  
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F26 F34 H0293 P0599 G3623; S9999 S1070-R; S9999 S1412 S1401  
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Q8195-R Q8173  
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N6780-R N6655; Q9999 Q7523; N9999 N7170 N7023; Q9999 Q7114-R; Q9999  
Q8195-R Q8173  
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\*001\* 017; P1707 P1694 D01  
\*002\* 017; ND01; K9563 K9483; K9676-R; N9999 N7147 N7034 N7023; N9999  
N6780-R N6655; Q9999 Q7523; N9999 N7170 N7023; Q9999 Q7114-R; Q9999  
Q8195-R Q8173  
\*003\* 017; Q9999 Q9110

Ring Index Numbers: ; 05935; 05935

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Specific Compound Numbers: R01559-M; R01559-U

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9542-D7502-U

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